

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1 1. (Currently Amended) A process for preparing a solid polymer electrolyte
2 membrane comprising an ion-conducting polymer, a catalyst and a high surface area supported
3 material, which process comprises:

4 (a) associating the catalyst with the support material to form a catalysed
5 support; and

6 (b) combining the catalysed support with ~~the ion-conducting polymer~~; a
7 solution of the ion-conducting polymer to produce a membrane such that
8 the catalysed support is incorporated into the solid polymer electrolyte
9 membrane, wherein the ion-conducting polymer is in a liquid medium that
10 is aqueous-based and is essentially free from organic solvents.

1 2. (Cancelled)

1 3. (Previously Presented) A process according to claim 1, wherein the
2 catalyst comprises one or more precious metals, or combinations thereof, and/or other
3 transition group metals.

1 4. (Previously Presented) A process according to claim 1, wherein the
2 catalyst comprises platinum.

1 5. (Previously Presented) A process according to claim 1, wherein the
2 catalyst is deposited onto the support material to a loading of between 0.01 to 50.0% by weight
3 of the total catalysed support.

1 6. (Original) A process according to claim 5, wherein the catalyst is
2 deposited onto the support material at a loading of from 1 to 25 wt% of the total catalysed
3 support.

1 7. (Original) A process according to claim 6, wherein the catalyst is
2 deposited onto the support material at a loading of from 1 to 10 wt% of the total catalysed
3 support.

1 8. (Previously Presented) A process according to claim 1, wherein the
2 amount of catalysed support incorporated into the membrane is such that the metal loading is
3 lower than 0.1mg/cm².

1 9. (Previously Presented) A process according to claim 8, wherein the
2 amount of catalysed support incorporated into the membrane is such that the metal loading is
3 lower than 0.05mg/cm².

1 10. (Previously Presented) A process according to claim 9, wherein the
2 amount of catalysed support incorporated into the membrane is such that the metal loading is
3 lower than 0.03mg/cm².

1 11. (Previously Presented) A process according to claim 1, wherein the high
2 surface support material is non-electrically conducting.

1 12. (Previously Presented) A process according to claim 1, wherein the high
2 surface area support material is selected from the group consisting of silica, titania, alumina,
3 zirconium oxides, zirconium silicates, tungsten oxides, tin oxides and zeolites.


1 13. (Previously Presented) A process according to claim 1, wherein the
2 support material is in the form of fibres.

1 14. (Previously Presented) A process according to claim 1, wherein the
2 support material is in the form of particles with a mean particle size in the range of from
3 0.001µm to 10µm.

1 15. (Original) A process according to claim 14, wherein the mean particle
2 size is in the range of from 0.01 μ m to 5 μ m.

1 16. (Previously Presented) A process according to claim 1, wherein the ion-
2 conducting polymer comprises an essentially aqueous solution of a perfluorinated co-polymer
3 with ion-exchange groups.

1 17. (Previously Presented) A process according to claim 1, wherein the
2 catalysed support is in particle or fibre form and step (b) comprises directly adding the
3 catalysed support to a solution of the ion-conducting polymer electrolyte.

 1 18. (Previously Presented) A process according to claim 1, wherein the
2 catalysed support is in particle form and is applied as a binder to form a fibre network to which
3 the ion-conducting polymer is subsequently applied to produce the membrane.

1 19. (Previously Presented) A process according to claim 1, wherein the
2 catalysed support is in fibre form and itself is formed into a fibre network which is thereafter
3 bound with a binder, and the ion-conducting polymer is subsequently applied to produce the
4 membrane.

1 20. (Previously Presented) A membrane prepared by a process according to
2 claim 1.

1 21. (Previously Presented) A membrane electrode assembly comprising a
2 membrane prepared by a process according to claim 1.

1 22. (Previously Presented) A fuel cell comprising a membrane prepared by a
2 process according to claim 1.

1 23. (Original) A fuel cell comprising a membrane electrode assembly
2 according to claim 21.

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24. (New) A process according to claim 1 further comprising directly casting the membrane from the mixture of the catalysed support and the solution of the ion-conducting polymer of step (b).
